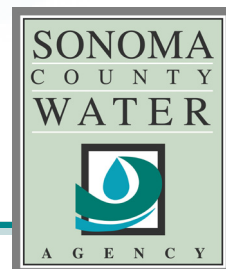


Sonoma County Water Agency

# Water Supply Strategies Action Plan

DRAFT  
January 2013



# Table of Contents

	<b>WATER SUPPLY STRATEGIES</b>	<b>PAGE</b>
	Executive Summary	4
<b>Strategy 1</b>	Ensure Adequate Summertime Water Flow Through Dry Creek Valley	7
<b>Strategy 2</b>	Improve Management Of Russian River System To Protect Fisheries And Meet Water Demands	11
<b>Strategy 3</b>	Plan For The Impact Of Climate Change On Water Supply & Flood Protection	15
<b>Strategy 4</b>	Identify And Implement Projects That Integrate Stormwater Recharge And Flood Control	16
<b>Strategy 5</b>	Build Partnerships With Stakeholders To Facilitate Information-Based Water Supply Planning	17
<b>Strategy 6</b>	Implement Projects To Improve Transmission System Reliability	19
<b>Strategy 7</b>	Improve The Energy Efficiency Of The Water Transmission System And Increase Renewable Power Use	21
<b>Strategy 8</b>	Implement Projects That Improve Integration Of Water Management	23
<b>Strategy 9</b>	Improve Internal And External Processes, Data Exchange And Analysis to Promote Organizational Efficiency	25
<b>Attachment A</b>	10 Year Summary of Planned Water Supply & Reliability Projects	27
<b>Attachment B</b>	Summary of Changes to 2011 Water Supply Strategies Action Plan	28

**This plan identifies three levels of action:**

**Immediate Action: Ongoing or to be initiated within the next year because:**

1. Required by regulatory or other deadlines;
2. Other strategies or actions are dependent on outcome;
3. Achievable in the near-term;
4. Funding and resources are available.

**Near Term Action: To be initiated within one to three years because:**

1. Anticipated, yet not immediate, deadline;
2. Funding is proposed;
3. Necessary for planning and development of long-term actions.

**Long-term Action: No defined start date for action, likely longer than three years, because:**

1. Not enough information to proceed at this time;
2. Lower priority;
3. Funding not available.

# Acronyms Used in Plan

Acronyms are used throughout the Water Supply Strategies Action Plan to keep the document as concise as possible.

ACWA	Association of California Water Agencies
AFY	Acre feet per year
AMR	Automated Meter Reading
BOR	Bureau of Reclamation
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CSD	County Sanitation District
CUWCC	California Urban Water Conservation Council
D1610	Decision 1610
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
GHG	Green House Gas
HMT	Hydrometeorology Test
IRWMP	Integrated Regional Water Management Plan
MCIWPC	Mendocino County Inland Water and Power Commission
mgd	Million Gallons a Day
MMWD	Marin Municipal Water District
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NMWD	North Marin Water District
NOAA	National Oceanic and Atmospheric Administration
OES	Office of Emergency Services
PG&E	Pacific Gas & Electric
PRMD	Permit & Resource Management Department
PWRPA	Power and Water Resources Pooling Authority
RCD	Resource Conservation District
RCPA	Regional Climate Protection Authority
SCADA	Supervisory Control and Data Acquisition
SCEIP	Sonoma County Energy Independence Program
SCWA	Sonoma County Water Agency
SVCSD	Sonoma Valley County Sanitation District
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VOM	Valley of the Moon
VOMWD	Valley of the Moon Water District
WAC	Water Advisory Committee
WREGIS	Western Renewable Energy Generation Information System
WSD	Water Smart Development

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## **2013 WATER SUPPLY STRATEGIES ACTION PLAN**

### **EXECUTIVE SUMMARY**

In September 2010, following a 16-month process of community involvement, the Sonoma County Water Agency Board of Directors approved nine Water Supply Strategies developed to increase water supply system reliability, resiliency and efficiency in the face of limited resources, regulatory constraints and climate change uncertainties.

Under Board direction, the 2010 Water Supply Strategies Action Plan described how each strategy was being carried out through specific activities and projects, identified involved parties and provided the state and budget information for each activity or project. The Board recognized that the plan is a living document and requested regular updates. The first update was provided in 2011.

The Water Agency is pleased to report that many activities identified in the 2011 Action Plan were successfully completed. The 2013 Action Plan identifies new activities initiated to support the strategies and also activities that are continuing or have been reprioritized.

As in prior plans, the 2013 Action Plan recognizes the importance of specific stakeholder and general community involvement in successfully carrying out the strategies. Stakeholders who are working with the Water Agency on implementation of a particular action item are specifically mentioned as Involved Parties. Where community involvement is occurring or anticipated during all or part of the process, “community groups” are indicated as Involved Parties. In addition, many Action Plan activities will be reviewed or approved at Water Advisory Committee, Flood Control Zone, Agency Board of Directors and other public meetings. Members of the general public will have the opportunity to review and comment on the activities at all such forums.

Major accomplishments and changes from the 2011 Action Plan are summarized below and in the attached spreadsheet.

#### **Actions Successfully Completed**

The last year was marked by major accomplishments in implementation of the Russian River Biological Opinion: The Dry Creek Habitat Enhancement Feasibility Study was completed. Two additional tributary enhancement projects were constructed, meaning that four of five required projects required are now complete.

The Dry Creek Habitat Enhancement is the guiding document for one of the major mandates of the Biological Opinion: Enhancing six miles of habitat. The study identified nine miles of potential habitat improvements, including constructed log jams, backwaters, side channels, riffles, boulder clusters, bank stabilization and vegetation management. Using the study as a guide, Water Agency staff is reaching out to landowners for the second and third miles of habitat enhancement. (The first-mile demonstration project is already underway – see below.)

In 2012, two important projects were completed on tributaries to Dry Creek, making it easier for coho and steelhead to migrate to historic spawning grounds. Both the Crane Creek restoration project and the Grape Creek bridge fish passage project were accomplished in partnership with Sotoyome Resource Conservation District and private landowners. These projects will remain in the action plan, as they will be monitored to see how fish are faring with the improvements.

The Water Agency completed other projects and activities of note over the last year, including securing rights to clean energy generated at Warm Springs Dam (hydropower) and the county landfill (methane) and construction of a

new recycled water storage pond at the Sonoma Valley County Sanitation District plant.

### Significant Progress

Significant progress was made on several 2011 Action Plan items that will continue to be listed in the 2013 Action Plan, including:

- The first phase of the Dry Creek Habitat Enhancement Demonstration Project was completed at Quivira Vineyards and Winery. The second phase (involving several landowners) will be constructed in summer 2013.
- Following the Board's approval of a Lagoon Management Plan in 2011, monitoring continues of water quality, fish, invertebrates, seals and other pinnipeds in the estuary between May 15 and October 15.
- An Independent Science Review Panel was created, with the goal of providing science-based information on the interaction of groundwater and tributary flows in the upper Russian River.
- Utilizing a \$1.6 million grant that helped construct the new Sonoma Valley County Sanitation District recycled water storage pond, design and right-of-way acquisition is nearly completed on a recycled water pipeline that will help restore the Napa Salt Marsh.
- The Water Agency and Water Contractors continued funding the Sonoma-Marin Saving Water Partnership and its comprehensive public outreach campaign.
- Environmental analysis and modeling are well underway for the Fish Flow project.
- Climate change modeling, including the Hydrometeorology Test Bed, continues.
- Progress is ongoing in completing Sonoma Valley groundwater management projects. Monitoring wells were installed, groundwater levels are being monitored and public outreach conducted.
- Santa Rosa Plain groundwater management activities continued, with the creation of a Basin Advisory Panel, which recommended to the Water Agency Board that a Groundwater Management Plan be initiated.
- The state-required California Statewide Groundwater Elevation Monitoring program continued in designated basins, with water levels measured and reported.
- Several hazard and operational reliability projects are ongoing, including the earthquake fault crossing mitigation at Rogers Creek, the Russian River and Mark West Creek; liquefaction mitigation for Collectors Three and Five, isolation valve replacement; and installation of flow monitors.

### Reprioritization

Several items listed in the 2013 Action Plan have been reprioritized, based on changed conditions, funding opportunities or loss, or other circumstances. Projects falling into this category include:

- **Dry Creek Habitat Enhancement Miles 2 & 3.** Using the final Feasibility Study, Water Agency staff is working with Dry Creek landowners to assess interest in participating in the second and third miles of habitat enhancement. This item has been moved from Near Term to immediate, to meet the 2016-2017 construction deadline.
- **Water supply reliability analysis.** This analysis of reliability in the upper Russian River has been moved from Near Term to Immediate.
- **Potter Valley Project relicensing.** PG&E's Potter Valley Project will be considered for relicensing in 2022. Water Agency staff will begin preliminary activities, including analysis of technical operations and review of hydrologic and fishery data and studies.
- **Climate change adaptation.** This item has been moved from Near Term to Immediate, and outreach and information gathering has been added to the task of developing actions to improve reliability in face of climate change.
- **Energy items.** In the 2011 plan, an item was added to assist interested Water Contractors in joining PWRPA. Unfortunately, PWRPA doesn't allow wheeling of power to contractors, and this item has been removed from the Action Plan.

## New Actions

Several items were added to the 2013 plan to reflect new Water Agency initiatives, areas of focus or funding opportunities, including:

- **Mirabel enhanced fish barrier passage facilities.** We added to the Action Plan the Water Agency's efforts to comply with the Biological Opinion by constructing enhanced fish barrier passage facilities, including new screens at intake, fish ladder and viewing gallery. The Water Agency received grant funding to design new screen, fish ladder and viewing gallery. The design is now 90 percent complete; an environmental document has been released; an application has been submitted for a construction grant; and construction is slated for 2014.
- **Outreach and information gathering on climate change adaptation.** Information must be gathered from federal, state and local agencies and NGOs to determine the status of various climate change adaptation activities. This information will support the development of reliability actions.
- **New operation reliability projects.** Several reliability projects were added, including Santa Rosa Aqueduct cathodic protection, Mirabel surge protection, Kawana to Sonoma booster upgrade, Sonoma booster pump upgrade, and improvements to the Wohler-Santa Rosa pipeline at the Santa Rosa Creek crossing.
- **Sonoma County Efficiency Financing.** This new financing tool for local government (including water districts, cities, special districts and school districts) can lead to increased water-use and energy efficiencies at an affordable price.

For more information, please refer to the attached spreadsheet, which summarizes the changes to all 2011 Immediate Actions. The 2013 Update provides additional information and details on all actions. These documents can be found online at [www.sonomacountywater.water-supply-strategy](http://www.sonomacountywater.water-supply-strategy).

## Water Supply Strategy One

ENSURE ADEQUATE SUMMERTIME WATER FLOW THROUGH DRY CREEK VALLEY

### Immediate Action One:

**Habitat enhancement, as required by the Biological Opinion, to increase capability of Dry Creek to accommodate summer flows while protecting coho and steelhead.**

#### **A. Project: Demonstration project**

Build Mile One of Dry Creek habitat enhancement by 2014.

STATUS: The design is complete. Landowner right of way process is underway. Construction has begun with a completed backwater segment at the northern end of the project. The majority of construction on Mile One is slated for summer 2013.

##### **Involved Parties (A and B):**

- Dry Creek property owners, NMFS, US Army Corps of Engineers (USACE), CDFG, Water Contractors, community groups

#### **B. Project: Development of success measures**

Develop criteria for measuring success of Dry Creek habitat enhancement program.

STATUS: A facilitated process to develop and implement specific success criteria is ongoing, and anticipated to be complete in early 2013. The process includes the Water Agency, NMFS, USACE and CDFG.

##### **Involved Parties:**

- NMFS, USACE, CDFG

#### **C. Project: Construct Miles Two and Three of Dry Creek Habitat enhancement by 2017 *NEW!***

Using results of completed feasibility study, complete construction of miles 2 and 3 by 2017.

Reach out to landowners whose property has been identified as having high potential of success for habitat improvements.

STATUS: Outreach has begun to property owners.

##### **Involved Parties:**

- Dry Creek property owners, NMFS, CDFG, USACE

### Immediate Action Two:

**Reduce peak demands that affect Warm Springs Dam releases (also see Strategy 8)**

#### **A. Project: New reuse**

Pursue reuse projects involving Water Agency including Windsor (Airport Service Area) and Sonoma Valley (Sonoma Valley County Sanitation District -- SCVSD).

STATUS: Windsor and the Water Agency are working on market analysis and lifecycle cost assessment as a follow-up to completed feasibility study of recycled water project. In Sonoma Valley, the sanitation district designed and constructed a pipeline and storage facilities, partially funded through a Bureau of Reclamation grant. The district is seeking additional funding for new pipeline extensions.

##### **Involved Parties:**

- Windsor (in Airport area). In Sonoma Valley: City of Sonoma, North Bay Water Reuse Authority, SVCSD, Valley of the Moon Water District, community groups

#### **B. Project: Storage - Groundwater Banking Feasibility Study**

Develop Phase 1 regional study and Phase 2 site-specific work plans to implement pilot studies for each Water Contractor.



STATUS: The study is in progress and expected to be completed in winter 2013.

**Involved Parties:**

- Cotati, Rohnert Park, Windsor, Sonoma, VOMWD, community groups

**C. Project: Retrofit/conservation**

- High Efficiency Fixture direct install program
- AB715 and SB407 mandate high efficiency toilets and fixture retrofit on resale
- Water management grant funding tied to water conservation Best Management Practices
- Implement regional programs through the Sonoma Marin Saving Water Partnership
- Implement regional programs that target outdoor water use
- Encourage water use efficiency through outreach and education

**STATUS:** The Sonoma Marin Saving Water Partnership continued the outreach campaign featuring people who've saved water by running prominent ads in local papers; our Eco Friendly Garden Tour boasted over 600 attendees; and the Direct Install Program was re-started in six of the eight Water Agency sanitation service areas.

**Involved Parties:**

- For state-mandated efforts and implementation of the Saving Water Partnership, all Water Contractors, community groups

**D: Project: Leak detection**

Conduct research in development of advanced analytics tool to evaluate the system flow and pressure monitoring data to help detect leaks in transmission and distribution systems.

**STATUS:** The pressure management component of the project was completed in August 2012. IBM developed a web-based application tool for balancing pressures and minimizing pressure spikes. The VOMWD has incorporated the pressure recommendations into its operational decision making, and has found significant benefits (including a reduction in pipe breaks). A demonstration of the tool's ability to predict leak locations is ongoing.

**Involved Parties:**

- VOMWD and IBM

## Immediate Action Three:

**Implement five tributary restoration projects, as required by Biological Opinion, with goal of enhancing coho and steelhead habitat.**

**A. Project: Grape Creek and Crane Creek restoration projects**

**STATUS:** Construction is complete for these two projects. First year monitoring occurred summer 2011 in Grape Creek, with juvenile coho found upstream of and in restored areas. Sotoyome Resource Conservation District is managing the Crane Creek project. Monitoring is underway.

**B. Project: Grape Creek, Willow Creek and Wallace Creek fish passage projects**

**STATUS:** Both the Grape Creek and Willow Creek fish passage projects are complete. Monitoring has begun. Design for Wallace Creek project is complete, but right-of-way issues have delayed construction and project will likely be abandoned, and a new project identified.

**Involved Parties (A and B):**

- Private landowners, Sotoyome RCD, Sonoma County DTPW, NMFS, CDFG, community groups

## Immediate Action Four:

**Identify and secure federal, state, and grant funding for implementation of Biological Opinion.**

**A. Project: Seek federal and state funding**



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Water Agency representatives in Washington, D.C. and Sacramento are pursuing funding for studies and projects required by the Biological Opinion.

STATUS: State grant application submitted for funding of fish screen/ladder/viewing gallery. Federal activities have been focused on USACE authority and funding for Dry Creek habitat enhancement projects. USACE received funding for a pilot enhancement project immediately below WSD.

**Involved Parties:**

- NMFS, USACE, CDFG, Water Contractors, community groups

**B. Project: Proactively work with Water Contractors to ensure their timely assistance in funding efforts and report activities at WAC meetings.**

STATUS: Biannual discussions on legislative activities will be scheduled for WAC and TAC meetings.

**Involved Parties:**

- Water Contractors

### Near Term Action One:

**Develop contingency plan for funding and construction of Dry Creek bypass pipeline if, contrary to expectations, habitat enhancement efforts fail.**

**A. Project: Bypass pipeline contingency planning**

STATUS: To be determined during budget discussions after completion of habitat enhancement studies and pipeline feasibility study.

**Involved Parties:**

- NMFS, USACE, CDFG, Water Contractors

### Near Term Action Two:

**Conduct engineering and water quality analysis for Dry Creek bypass pipeline.**

**A. Project: Conduct bypass pipeline engineering and water quality analysis**

STATUS: A study to develop and implement a plan to evaluate sediment issues at potential outlet sites (if pipeline construction is necessary) will be conducted within three years.

**Involved Parties:**

- NMFS, USACE, CDFG, Water Contractors

### Long Term Action One:

**Construct fourth, fifth and sixth miles of Dry Creek habitat enhancement, per Biological Opinion.**

**A. Project: Habitat enhancement**

STATUS: To be completed by 2021 if first three miles restored and found successful by NMFS/CDFG in 2018.

**Involved Parties:**

- Dry Creek property owners, NMFS, USACE, CDFG, community groups

## DRAFT

### Long Term Action Two:

**If habitat enhancement efforts are unsuccessful, build Dry Creek bypass pipeline.**

**A. Project: Conduct necessary financial and environmental studies and identify timing of projects**

STATUS: To be determined.

**B. Project: Construct bypass pipeline**

STATUS: To be determined.

**Involved Parties (A and B):**

- NMFS, USACE, CDFG, Water Contractors, community groups

## Water Supply Strategy Two

IMPROVE MANAGEMENT OF RUSSIAN RIVER SYSTEM TO PROTECT FISHERIES AND MEET WATER DEMANDS

### Immediate Action One:

#### **Modify Decision 1610 minimum instream flow requirements as required by Biological Opinion and make technical adjustments to existing water rights.**

##### **A. Project: Decision 1610 changes**

Petition for changes to Decision 1610 instream flow requirements, as required by Biological Opinion, and develop petitions for water rights technical adjustments.

STATUS: State Water Resources Control Board (SWRCB) issued notice of Water Agency's 2009 petition, with comment period closing in May 2010. Water Agency received 384 protests to the petition.

Negotiations are ongoing, but protests are not expected to be resolved until after release of Final EIR for the Fish Flow Project (see C below).

##### **Involved Parties:**

- SWRCB, Water Contractors, USACE, NMFS, CDFG, community groups

##### **B. Project: Modeling and development of new hydrologic index**

Conduct modeling for Fish Flow Project EIR using new ResSim model, updated demand profile, unimpaired flows and Biological Opinion-specified summer flows. Develop new hydrologic index with assistance from the USACE's Hydrologic Engineering Center (HEC) and the Hydrologic Index Technical Advisory Group (HITAG), comprised of representatives from state and federal agencies.

STATUS: Development of new hydrologic index and minimum instream flow alternatives is in progress. Climate change modeling scheduled for winter 2013.

##### **Involved Parties:**

- USGS, NOAA, USACE, DWR, SWRCB

##### **C. Project: Fish Flow Project Environmental Impact Report (EIR)**

Prepare EIR for modified Decision 1610 minimum instream flow requirements and technical water rights

Adjustments, including new hydrologic index.

STATUS: Notice of Preparation was released in September 2010. Draft EIR anticipated to be released in 2013.

##### **Involved Parties:**

- Water Contractors, SWRCB, USACE, NMFS, CDFG, community groups

##### **D. Project: Submit annual interim change petitions**

STATUS: As per Biological Opinion, since 2010 the Water Agency has submitted petitions to SWRCB to reduce minimum flows. These petitions were approved, required monitoring and reporting was conducted and subsequent orders implemented. The Water Agency plans to submit another petition to the SWRCB in 2013.

##### **Involved Parties:**

- SWRCB, Water Contractors, NMFS, CDFG, Russian River water users, community groups

### Immediate Action Two:

##### **A. Project: Estuary Adaptive Management**

Biological Opinion requires modification of the Water Agency's Russian River estuary program, including managing the estuary as a summer lagoon for steelhead rearing habitat between May 15 and October 15, and breaching the sandbar that closes the mouth of river as needed to minimize

## DRAFT

flood risk the remainder of the year.

STATUS: The Final EIR was certified and the project approved in August 2011. A lawsuit challenging the adequacy of the EIR was settled in September 2012.

### **Involved Parties:**

- NMFS, CDFG, community groups

## **Immediate Action Three:**

**Work with interested parties to form an independent science review panel to evaluate existing data and develop a conceptual model regarding the hydrologic system upstream of the confluence of Dry Creek and the Russian River**

### **A. Project: Formation of science panel**

Participate in the formation of an interdisciplinary, independent science review panel for the upper Russian River system. Purpose of panel is to describe how system (groundwater, surface water) works and identify data gaps.

STATUS: Funding was approved in spring 2012; the panel was formed in August 2012; a kickoff meeting and tour was held in October 2012; and a science forum is planned for January 2013.

### **Involved Parties:**

- Grape growers and other stakeholder and community groups.

## **Immediate Action Four:**

**Support enhanced weather forecasting for frost protection and irrigation by agriculture.**

### **A. Project: Demonstration Project**

Provide funding and support to NOAA to develop improved temperature forecast modeling tools. Focus will be on Alexander Valley, with goal of improving forecasts of frost and hot spells. Study will downscale and correct models and integrate weather station data provided by the Winegrape Commission and other parties. (Coordinate with Strategy 3, Immediate Action 2 if possible.)

STATUS: Project being implemented. Trial testing began in spring 2012. Water Agency and NOAA are installing radar designed to identify the height of inversion layers.

### **Involved Parties:**

- NOAA, grape growers and Sonoma County Winegrape Commission

## **Immediate Action Five:**

**Enhance operations at Lake Mendocino to increase water supply.**

### **A. Project: Corps operations**

Enter into Memorandum of Agreement (MOA) with USACE to evaluate potential options for modified reservoir operations.

STATUS: Water Agency and USACE entered into a MOA to evaluate reoperation of Coyote Valley Dam to provide improved water supply reliability. Preliminary work has been conducted and the study is anticipated to begin in spring 2013.

### **Involved Parties:**

- USACE, plus NOAA and National Weather Service for data collection and modeling

### **B. Project: Local users**

Develop comprehensive water use agreement with Mendocino County water districts.

STATUS: Discussion ongoing.

**Involved Parties:**

- Mendocino County Russian River water users, SWRCB, community groups

**Immediate Action Six:**

**Prepare reports on Water Agency's water rights.**

**A. Project: Reports**

Prepare annual water rights reports, detailing total water use including local supplies, water conservation savings and recycled water for offset of Russian River supplies.

STATUS: Water Agency submitted its annual water rights permit progress and licensee reports for Water Year 2011 to the SWRCB on June 29, 2012.

**Involved Parties:**

Water Contractors, SWRCB, other Russian River water users under contract to the Water Agency

**Immediate Action Seven:**

**Conduct water supply reliability analysis of the upper Russian River. Evaluate existing information regarding demand/use; gather new information from users; update demand analysis; model possible future scenarios; and evaluate impacts on reliability of Lake Mendocino**

**A. Project: Water Supply Reliability Analysis**

Implement technical work need for studies, monitoring and modeling activities described above.

STATUS: Outreach to stakeholders has begun.

**Involved Parties:**

- Mendocino County Russian River Flood Control and Water Conservation Improvement District, municipalities and water districts north of Dry Creek confluence, grape growers, SWRCB, other Russian River water users, community groups

**Immediate Action Eight: *NEW!***

**Construct new fish screens at Mirabel, in compliance with Biological Opinion.**

**A. Project: Build enhanced fish barrier passage facilities at intake for infiltration ponds**

Design and construct enhanced fish barrier passage facilities, including new screens at intake, fish ladder and viewing gallery at inflatable dam.

STATUS: Grant funding was received to design new screen, fish ladder and viewing gallery. Design is 90 percent complete; environmental document has been released; application has been submitted for a construction grant; and construction is slated for 2014.

**Involved Parties:**

CDFG, NOAA, Water Contractors

**Immediate Action Nine**

**A. Project: Prepare for Potter Valley Project (PVP) re-licensing proceeding**

PG&E's FERC license will expire in 2022. The relicensing process will likely begin in the next several years. The Water Agency and its customers must prepare to participate in the relicensing to ensure their interests and those of the Russian River ecosystem and water users are incorporated into future operation of the PVP.

STATUS: During 2012/13, begin preliminary activities, including analysis of technical operations and review of hydrologic and fishery data and studies.

## DRAFT

### **Involved Parties:**

- FERC, PG&E, NMFS, USACE, Round Valley Tribes, Water Contractors, Russian River water users, community groups

### **Near Term Action One:**

#### **Implement water management in Dry Creek per agreement with Dry Creek property owners.**

##### **A. Project: Variety of Actions**

Implement actions related to water management programs, studies, and monitoring activities specified in Dry Creek water management agreement.

STATUS: Awaiting land owner sign ups from Dry Creek Agricultural Water Users, Inc. Also need federal approval. Project moved from Immediate to Near Term. Focus has shifted to Dry Creek activities required by the Biological Opinion.

### **Involved Parties:**

- Dry Creek Agricultural Water Users, Inc., Secretary of Army

## Water Supply Strategy Three

### PLAN FOR THE IMPACT OF CLIMATE CHANGE ON WATER SUPPLY & FLOOD PROTECTION

#### Immediate Action One:

##### **Conduct climate change modeling for Russian River and Sonoma Valley watersheds.**

###### **A. Project: Develop Model**

Develop predictive model for Sonoma Valley and Russian River watersheds that downscales large climate models to local watershed scale. Model will provide hydrology input to Water Agency's model (ResSim) and to Sonoma Valley and Santa Rosa Plain groundwater models.

STATUS: Study is underway and anticipated to be complete in 2013.

###### **Involved Parties:**

- U.S. Geological Survey (USGS)

#### Immediate Action Two:

##### **Support development of Hydrometeorology Test bed (HMT) for the Russian River basin.**

###### **A. Project: Support federal partners**

This demonstration project will enhance precipitation monitoring and forecasting through data collected from privately owned Doppler radar stations and will deploy additional on-the-ground weather stations. It will also improve temperature forecasting in Alexander Valley by improving NOAA's models.

STATUS: NOAA and the Water Agency are working on the demonstration program.

###### **Involved Parties:**

- NOAA, USACE, USGS, National Weather Service

#### Immediate Action Three:

##### **Develop Adaptation Measures**

###### **A. Project: Outreach and information gathering *NEW!***

Gather information to determine the status of various climate change adaptation activities by federal, state and local agencies and NGOs. Identify areas for collaboration and leveraging resources. These activities will support Project B (below).

STATUS: Activities began in spring 2012.

###### **B. Develop reliability actions**

Once climate change predictive modeling is complete, develop actions to increase reliability of water supply, reservoir and river management, conjunctive use, and saline water management.

STATUS: To be determined.

###### **Involved Parties:**

- USACE, Regional Climate Protection Authority, Water Contractors, community groups

#### Long Term Action One:

##### **Update climate change analysis.**

###### **A. Project: To be determined**

Based on advances in scientific understanding of climate processes and predictive modeling.

###### **Involved Parties:**

- USGS



## Water Supply Strategy Four

IDENTIFY AND IMPLEMENT PROJECTS THAT INTEGRATE STORMWATER RECHARGE AND FLOOD CONTROL

### Immediate Action One:

**Identify projects within Water Agency Flood Control Zones that reduce flooding and increase groundwater recharge.**

#### A. Project: Scoping and Feasibility Studies

Conduct scoping and feasibility study for flood control/water supply projects for Zones 1A, 2A, and 3A.

STATUS: Scoping studies are completed. Stakeholder meetings were held in Sonoma Creek, Petaluma River, and Laguna Mark-West watersheds and project concepts are in development. Feasibility Studies will be prepared for top ranked project concepts in each watershed.

##### Involved Parties:

- Flood Zone advisory committees, Sonoma County Agricultural Preservation and Open Space District (Open Space District), resource conservation districts (RCD), cities in Zones 1A, 2A, and 3A, Sonoma Land Trust, agricultural organizations, property owners, community groups

#### B. Project: Seek funding

Apply for state, federal, and private grants to fund studies and potential projects.

STATUS: Received \$1 million from Proposition 84 funds for Copeland Creek project. The Sonoma Valley projects have been listed and received top tier priority in the SF Bay Integrated Regional Watershed Management Plan.

##### Involved Parties:

- North Bay Watershed Association, Sonoma Valley Basin Advisory Panel, SF Bay IRWMP, North Coast IRWMP, Sonoma Ecology Center, Southern Sonoma RCD, cities, Open Space District, other community groups

### Near Term Action One:

**Initiate efforts to obtain property rights for project sites identified in immediate actions. Obtain funding for such projects.**

#### A. Project implementation

Implement projects identified in feasibility study described above.

STATUS: To be initiated once study is completed and funding identified.

##### Involved Parties:

- Property owners, RCDs, cities, community groups

### Long Term Action One:

**Design and construct multipurpose stormwater detention facilities.**

#### A. Project:

Specific projects will be constructed dependent on completion of above steps.

##### Involved Parties:

- Property owners, RCDs, cities, Flood Zone committees, community groups

## Water Supply Strategy Five

BUILD PARTNERSHIPS WITH STAKEHOLDERS TO FACILITATE INFORMATION-BASED WATER SUPPLY PLANNING

### Immediate Action One:

**Develop non-regulatory AB 3030/SB1938 management plans that emphasize local control. Emphasize development of diversified water supply “portfolios” for each basin. Continue with Sonoma Valley program and initiate program in Santa Rosa Plain.**

#### A. Project: Sonoma Valley

Implement Sonoma Valley groundwater management plan.

STATUS: In progress. Activities undertaken in 2011/12 include public recognition of conservation efforts, water quality sampling of recently installed monitoring wells, basinwide groundwater level monitoring, initial preparation of a salt and nutrient management plan, and public outreach. During FY12/13, the Basin Advisory Panel will conduct a 5-year update of the plan.

##### Involved Parties:

- Basin Advisory Panel, private well owners, community groups, City of Sonoma, Valley of the Moon Water District, other water purveyors

#### B. Project: Santa Rosa Plain

Develop groundwater management plan for the Santa Rosa Plain

STATUS: A Basin Advisory Panel convened in December 2011, has met monthly and has developed a charter and governance structure, defined groundwater management plan boundaries, developed draft goals and objectives and conducted constituent briefings. In October 2012, the Water Agency Board approved a resolution of intention to prepare a groundwater management plan.

##### Involved Parties:

- Private well owners, community groups, cities, Water Contractors, DWR, other water purveyors

### Immediate Action Two:

**Pursue funding opportunities enhanced by developed management plans. Ranking for state funding enhanced if groundwater management plans are in place.**

#### A. Project: Funding

STATUS: Ongoing effort. Sonoma Valley has received three grants to date, in addition to direct DWR funding and technical support. The SVCSD recently obtained Proposition 84 funding for a salt and nutrient management planning study. Santa Rosa Plain stakeholder process has received DWR state funding for facilitator services in addition to a Proposition 84 grant to fund development of a groundwater plan. Santa Rosa Plain groundwater management process is included in North Coast IRWMP. An application for a Local Groundwater Assistance Grant was submitted to DWR for the construction of additional groundwater monitoring wells and collection of new hydrogeologic data in Sonoma Valley.

##### Involved Parties:

- State agencies, legislators, North Coast and San Francisco Bay IRWMP, DWR

**Immediate Action Three:**

**Work with interested parties to form an independent science review panel to evaluate existing data and develop a conceptual model regarding the hydrologic system upstream of the confluence of Dry Creek and the Russian River**

**A. Project: Formation of science panel**

See Strategy 2, Immediate Action 3, Formation of Science Panel

**Involved Parties:**

- Grape growers, other stakeholders and community groups

**Immediate Action Four:**

**Ensure Water Agency and Sonoma County compliance with the California Statewide Groundwater Elevation Monitoring (CASGEM) program.**

**A. Project: Preliminary activities - program development**

Implement first year of required monitoring for 13 designated basins in county's 14 basins. (The Water Agency is responsible for two basins and through an agreement with the County is monitoring the 11 basins under County responsibility. The City of Petaluma is responsible for the Petaluma Valley basin.)

STATUS: The Water Agency is working with the RCDs and others to conduct outreach, collect groundwater levels, and report data from the 13 basins to the state. Semi-annual water level measurements have been collected since fall 2011, and will be an ongoing activity.

**Involved Parties:**

- Sonoma County, cities, RCDs, community groups

**Near Term Action One:**

**Implement water management in Dry Creek per agreement with Dry Creek property owners.**

**A. Project: Variety of Actions (See strategy 2, Near Term Action 1)**

## Water Supply Strategy Six

### IMPLEMENT PROJECTS TO IMPROVE TRANSMISSION SYSTEM RELIABILITY

#### Immediate Action One:

**In consultation with Water Contractors, develop plan to provide consistent funding for natural hazard and operational reliability capital projects.**

**Projects with full or partial funding in 2011/12:**

#### **A. Project: Rodgers Creek Fault crossing mitigation**

**STATUS:** FEMA obligated funds in October 2010 and construction was awarded in September 2012. The project is anticipated to be complete in 2013.

#### **B. Project: Collector 3 and 5 liquefaction mitigation**

**STATUS:** In FY 2011/12 consultant began a feasibility study to evaluate potential project alternatives. Geotechnical field investigations were completed and a Letter of Intent for FEMA funding was submitted in 2011. The risks of the conceptual designs outweighed the benefits, and so funding applications were delayed. The concepts have been revised and the Water Agency will submit a new Letter of Interest in 2013.

#### **C. Project: Isolation valves**

**STATUS:** The project received preliminary selection for FEMA funding. Preliminary CEQA work began in 2011/12. FEMA recently initiated NEPA review. In 2012/13 the Water Agency will prepare the CEQA documents and support NEPA review, as needed.

#### **D. Project: Flow monitoring – Automated Meter Infrastructure**

**STATUS:** Three base stations and 70 transmitters have been installed. The Water Agency owns 2 additional base stations but they have not been deployed yet. The current goal is to determine the range of each base station by deploying as many transmitters as possible and noting which locations are unable to communicate. This phase should be complete in winter 2013.

#### **E. Project: Russian River crossing**

**STATUS:** The Russian River crossing project has received preliminary selection for FEMA funding. In FY 2011/12, the anticipated FEMA initiation of NEPA review did not occur. Preliminary designs and geotechnical field investigations are complete. CEQA and detailed design have begun. In FY 2012/13, the Water Agency will continue with design work, CEQA documentation and support FEMA's NEPA review, as needed.

#### **F. Project: River Diversion System liquefaction mitigation**

**STATUS:** In FY 2011/12, the consultant began the feasibility study to evaluate potential project alternatives. The geotechnical investigation is complete. The status of the feasibility study will depend on a similar feasibility study on Collectors 3 & 5.

#### **G. Project: Mark West Creek crossing**

## DRAFT

### **Involved Parties:**

- Water Contractors, LBNL, CDPH, EPA

### **Immediate Action Five:**

**Continue planning new transmission system projects to increase reliability of existing system.**

#### **A. Project: Planning**

Develop scope, cost, energy requests, and schedule of transmission system projects required to meet the Water Agency's portion of UWMP-identified projected demands through the Urban Water Management planning horizon. Projects identified using Water Agency's transmission system hydraulic model.

STATUS: Ongoing activity.

### **Involved Parties:**

- Water Contractors

### **Immediate Action Six:**

**Evaluate condition of Water Agency's transmission system, especially portions experiencing elevated velocities.**

#### **A. Project: Study – Petaluma Aqueduct, Santa Rosa Aqueduct and Oakmont Pipeline**

Evaluate the technologies used to assess Water Agency pipelines. Areas targeted for a pilot study to evaluate current and emerging technologies include an eastern segment of the Santa Rosa Aqueduct, a southern portion of the Petaluma Aqueduct and a northern section of the Oakmont Pipeline. If successful, this technology could be used to evaluate the overall transmission system.

STATUS: Forensic and petrographic analyses have been conducted from locations throughout the system, with analysis expected in winter 2013. The pilot study of assessment technologies is expected to start in spring 2013.

### **Involved Parties:**

- Water Contractors

#### **B. Project: Leak detection (See Strategy 1, Immediate Action 2, Project D)**

### **Immediate Action Seven:**

**Five year update and renewal of Local Hazard Mitigation Plan**

#### **A. Project: Update Local Hazard Mitigation Plan**

STATUS: In 2011/12 the Water Agency executed agreements with consultants. The update of the LHMP has begun and will be completed in January 2013.

### **Involved Parties:**

- Water Contractors, County of Sonoma

## Water Supply Strategy Seven

IMPROVE THE ENERGY EFFICIENCY OF THE WATER TRANSMISSION SYSTEM AND INCREASE RENEWABLE POWER USE

### Immediate Action One:

#### **Implement Water Agency's energy policy, including achieving "Carbon Free Water"**

##### **A. Project: Develop and implement Water Agency renewable energy generation projects**

1. Implement Farms to Fuels project.

STATUS: In development.

##### **Involved Parties:**

- Private developer OHR Biostar, LLC, PG&E, PWRPA, community groups

2. Explore other locally available renewable energy potential including solar, wind, wave, geo-thermal, solid waste, pyrolysis and biomass.

STATUS: Ongoing.

##### **Involved Parties:**

- PWRPA, North Coast IRWMP, PRMD, Open Space District, community groups

##### **B. Project: Develop and implement Water Agency energy efficiency projects**

1. Implement Sonoma County Efficiency Financing (SCEF) program to audit Water Agency pumping operations, wastewater treatment operations, and facilities for inefficiencies.

STATUS: Initiated in 2012, with anticipated project beginning in summer 2013 if recommendations are acceptable.

##### **Involved Parties:**

- Energy Service Company, SCEF

### Immediate Action Two:

#### **Implement Water Agency's Energy Policy regarding development of programs and projects of regional benefit**

##### **A. Project: Community Choice Aggregation**

In April 2012, the Water Agency Board authorized preparation of an Implementation Plan for Community Choice Aggregation (now known as Sonoma Clean Power) to provide details about start-up costs, financing, and level of participation; directed Water Agency staff to hold workshops for local city and town councils; directed staff to pursue the creation of a Joint Powers Authority to govern the entity; and directed staff to investigate possible sources of start-up funding for Sonoma Clean Power.

STATUS: In development.

##### **Involved Parties:**

- RCPA, County of Sonoma, local municipalities, other public and private entities and organizations, community groups

##### **B. Project: Renewable Energy Secure Communities (RESCO)**

Implement RESCO project to develop renewable energy portfolio for Sonoma County, including piloting organic waste digestion combined heat and power (CHP), wind, geothermal heat pumps using recycled water, and electric vehicle charging stations to run on renewables.

STATUS: In development. Expected completion 2013.

##### **Involved Parties:**

- RCPA, CPC, Los Alamos National Laboratory (LANL), Local Power Inc., community groups

## **C. Project: Sonoma County Efficiency Financing (SCEF) *NEW!***

Implement SCEF, a program which bundles large energy efficiency projects for local governments and non-profits, and provides cost-effective financing.

STATUS: The Water Agency is working with multiple school districts, local governments and hospitals to encourage participation; standard contract documents have been drafted (which include guaranteed efficiency savings agreements, program participation agreements and payment installment agreements); and a short list of energy service companies have been identified through an RFQ process.

### **Involved Parties:**

- School districts, County of Sonoma, cities, NGOs

## **D. Project: Emissions Reporting**

Voluntarily report carbon emissions to The Climate Registry to verify carbon free status.

STATUS: Ongoing.

### **Involved Parties:**

- Internal Activity, The Climate Registry

## **E. Project: Register Renewable Energy Credits with Western Renewable Energy Generation Information System (WREGIS)**

STATUS: Ongoing

### **Involved Parties:**

- WREGIS

## **F. Project: Solar**

Develop Sonoma County Airport project.

STATUS: The airport project in development, with CEQA underway. A developer has been selected to finance, design, build, own, operate and maintain a PV facility.

### **Involved Parties:**

- PG&E, PWRPA, Sonoma County Charles Schulz Airport, private solar developer

## **Immediate Action Three:**

**Pursue state and federal funding for energy efficiency and renewable energy projects.**

### **A. Project: Implement projects funded by State and federal grants**

Implement projects funded from the following grants:

- CEC Public Interest Energy Research (PIER) grant for RESCO project (\$1.0 million, April 2011)
- CEC Energy and Water Use Efficiency Grant for Collector No. 6 (\$50,000, March 2011)
- CEC State Energy Program (SEP) Municipal Energy Financing Program for North Coast Property Assessed Clean Energy (PACE) programs (\$2.5 million, February 2010)
- Metropolitan Transportation Commission (MTC) grant from the federal Surface Transportation Program (STP) for the Local Government EV Project (\$2.8 million, November 2010)

STATUS: While many grants have been received, the funded projects must be completed and the Water Agency continues to pursue grant funding.

### **Involved Parties:**

- LANL, Climate Protection Campaign, Regional Climate Protection Authority, Local Power Inc., BioStar Systems, LLC, Sonoma County Transit, Metropolitan Water District of Southern California, County of Sonoma, Sonoma County Transportation Authority, North Coast Energy Services, Inc., Alameda County, community groups



## Water Supply Strategy Eight

### IMPLEMENT PROJECTS THAT IMPROVE INTEGRATION OF WATER MANAGEMENT

#### Immediate Action One:

**Conduct long-term financial analysis to support evaluation and development of water supply, conservation, demand management, and recycled water projects and programs.**

##### **A. Project: Financial planning**

Use rate model to evaluate cost-benefit and feasibility of alternative Water Agency projects  
STATUS: Model has been refined, is functional and is being used to support ongoing planning activities with Water Contractors. The model evaluates wholesale Water Agency rates (not retail rates of Water Contractors). Water Agency staff and TAC members presented the results of these activities to the WAC in spring 2012. Water Agency staff will continue using model to support the budget process and long-term water supply planning.

##### **Involved Parties:**

- Water Contractors

#### Immediate Action Two:

**Develop countywide guidance manual and support the development of individual Water Smart Development (WSD) standards by each land use jurisdiction in Sonoma County, with the goal of managing stormwater quantity and quality and reducing potable water required by new development. Guidance manual will also partially address requirements of stormwater permit jointly held by Water Agency, Sonoma County, and Santa Rosa.**

##### **A. Project: Countywide manual**

Complete countywide manual with a comprehensive water balance approach that includes three primary WSD components: conservation, reuse and stormwater management.

STATUS: Draft countywide guidance manual circulated for review by stakeholders and comments received. The final version is expected to be released in 2013.

##### **B. Project: Local jurisdiction plans**

Support the development, as requested, by local land use jurisdictions that specify goals for reduced potable water requirements via WSD measures for new development (consistent with local policies and programs).

STATUS: Outreach with Sonoma County land use planning entities initiated.

##### **Involved Parties (A and B):**

- PRMD, Sonoma County cities, building community, Regional Water Quality Control Boards, SWRCB, community groups

#### Immediate Action Three:

**Consult with Water Contractors to evaluate feasibility of base demand system instead of continued peak summer demand system.**

##### **A. Project: Assess feasibility**

Specific project will depend on outcome of implementation of peak reduction measures (Strategy 1, Immediate Action 2) such as conservation, reuse, local supplies and groundwater banking. Financial implications of base demand system will be evaluated as part of long-term financial modeling (Immediate Action 2) and rate study (Immediate Action 4).

## DRAFT

STATUS: Ongoing discussion with Water Contractors as part of the Urban Water Management and financial planning processes.

**Involved Parties:**

- Water Contractors

### Immediate Action Four:

**Evaluate alternative revenue models such as seasonal rates and fixed versus variable costs.**

**A. Project: Evaluate alternative rate strategies**

STATUS: A consultant was retained in August 2012, and the study is in progress.

**Involved Parties:**

- Water Contractors

### Immediate Action Five:

**Compare actual gross demand, conservation, and source of water use (per the information completed in Strategy 2, Immediate Action 8) with the UWMP projection to ensure projections represent actual conditions.**

**A. Project: Data comparison.**

STATUS: This is an ongoing process that began in Water Year 2011/2012.

**Involved Parties:**

- Water Contractors, land use planning entities

### Immediate Action Six:

**Work with water contractors to evaluate local and sub-regional projects that could be combined with regional Water Agency projects to increase overall water supply reliability in the most cost-effective manner.**

**A. Project: Conduct assessment of local and sub-regional projects in conjunction with Water Agency projects**

STATUS: This assessment began in fall 2012. It is anticipated that this effort will part of an ongoing water supply planning process.

**Involved Parties:**

- Water Contractors

### Long Term Action One:

**Negotiate and develop new Restructured Agreement for water supply to reflect current conditions and identify future transmission system improvements.**

**A. Project: Identify changes**

Development of term sheet for proposed changes to Restructured Agreement for Water Supply to better reflect current and anticipated future conditions.

STATUS: To be determined.

**Involved Parties:**

- Water Contractors, community groups

**B. Project: Negotiate new agreement**

STATUS: To be determined.

**Involved Parties:**

- Water Contractors, community groups

## Water Supply Strategy Nine

IMPROVE INTERNAL AND EXTERNAL PROCESSES, DATA EXCHANGE AND ANALYSIS  
TO PROMOTE ORGANIZATIONAL EFFICIENCY

### Immediate Action One:

**Develop systems using advance technology to improve the interoperability and transparency of data between the Water Agency and Contractors, with the goal of improving operations and planning.**

#### **A. Project: Demonstration project - collaboration platform**

The initial pilot project integrated monitoring capabilities of SCADA systems for Cotati, Santa Rosa, Rohnert Park and Water Agency to improve communications, increase water and power efficiencies. The platform also integrated monitoring data from other resource agencies, including USGS, NOAA Weather Service and USACE.

STATUS: The start-up phase of the project was completed in summer 2012, demonstrating proof of concept. The Water Agency is continuing to work with IBM on potential future tasks that may include integrating into the platform: SCADA information from additional Water Contractors; display of automated turnout metering; improved display capabilities; and cloud-based web hosting.

### Immediate Action Two:

**Pursue ISO certification.**

#### **A. Project: Pursue ISO 9000 and 14000 certification**

ISO 9001 and 14001 will assure a program of constant improvement in the Water Agency's quality of work and environmental management.

STATUS: Ongoing efforts underway to achieve certification.

##### **Involved Parties:**

- Internal activity

### Immediate Action Three:

**Update method of allocating water during shortages**

**A. Project:** Update the Water Agency's existing annual Water Shortage Allocation and develop a new allocation model for summer months when diversions from the Russian River may be constrained due to reduced flows or water availability.

Many assumptions and inputs in the existing allocation model should be updated. In addition, the Contractors have requested the Water Agency develop a methodology to apportion water during peak demand periods when their water demands exceed the Agency's allowable diversions.

STATUS: The TAC and Water Agency are working with a consultant to develop an allocation model.

##### **Involved Parties:**

- Contractors

## DRAFT

### Near Term Action One:

**Extend demonstration project including Automated Meter Infrastructure to other Water Contractors.**

**A. Project: Extension of demonstration project**

STATUS: Design is part of demonstration project; extension of project will depend on Water Contractors' willingness to participate and availability of funding.

**Involved Parties:**

- Water Contractors

## 10 Year Summary of Planned Water Supply & Reliability Projects

Entity	Project	Status	Initiated	Estimated Completion	Water Supply?	Reliability?	Notes	Potential Constraints
Water Agency	South Transmission Section 1 (Cotati to Ely)		2020	2022				CEQA and Financial
Water Agency	South Transmission Section 2 (Ely to Kastania)		2020	2022				CEQA and Financial
Water Agency	Kawana – Ralphine-Sonoma BST Pipeline		2023	2025				CEQA and Financial
Water Agency	Petition to Increase Annual Diversion Limit		2020	2027				CEQA
Water Agency	Mirabel West Wells		2028	2030				CEQA and Financial
Rohnert Park	Groundwater Wells Replacement and Upgrade		2013	2035				Funding
Rohnert Park	Groundwater Banking		2011	2020				Feasibility
Rohnert Park	Recycled Water System Expansion		2012	2030				Timing of Development
Windsor	Off River Wells Water Supply Phase 1	Feasibility	2014	2016	Yes	Yes		Funding
Windsor	Off River Wells Water Supply Phase 2	Conceptual	2014	2020	Yes	Yes		Funding
Windsor	Recycled Water Expansion	Conceptual	2011	2020	Yes	Yes		Funding
Santa Rosa	Phase 1 West Recycled Water Project	Feasibility	2020	2025	Yes			Financial
North Marin	Recycled Water Expansion North & South	Design/Construction	2011	2015	Yes	Yes		Financial
North Marin	Recycled Water Expansion Central	Feasibility	2015	2025	Yes	Yes		Financial
North Marin	Aqueduct Energy Efficiency Project	Design/Construction	2011	2015		Yes		Financing/CalTrans
North Marin	Stafford Lake Solar Project	Design/Construction	2010	2012		Yes	COMPLETED	CSI Reinstatement
North Marin	Novato Local water Supply Enhancement Study	Conceptual	2012	2014	Yes	Yes		TBD
Cotati	Well 4	Conceptual	2011	2015	Yes	Yes		None
Cotati	Thomas Page Recycled Water Project	Design/Construction	2011	2013		Yes		None
Cotati	Sunflower Park Recycled Water Project	Conceptual	2012	2014		Yes		None
Cotati	Groundwater Banking Project	Feasibility	2010	2015		Yes		Feasibility
Marin Municipal	Peacock Gap Recycled Water Project		2009	2018				CEQA and Financial
Marin Municipal	33 San Pablo Recycled Water Project		2008	2012				None
Marin Municipal	Nicasio to Kent Pipeline	Design/Construction	2011	2019	Yes			CEQA and Financial
Petaluma	Recycled Water Area A			2015				None listed
Petaluma	Recycled Water Area C			TBD				None listed
Petaluma	Recycled Water Area E			TBD				None listed
Petaluma	Recycled Water Area G			TBD				None listed
City of Sonoma	SDC Conjointive Use							Agreement
City of Sonoma	Groundwater Well #8		2011	2013		Yes		Siting
City of Sonoma	Groundwater Banking		2011	2014	Yes	Yes		Feasibility
City of Sonoma	SCWA Russian River Water Rights Diversion Increase		2015	2035	Yes	Yes		Environ.
City of Sonoma	Groundwater Well #9 (replacement of existing well)		2014	2018		Yes		
City of Sonoma	Groundwater Well #10 (replacement of existing well)		2016	2020		Yes		
City of Sonoma	Sonoma Valley Recycled Water Project		2016	2025	Yes	Yes		
VOMWD	SDC Conjointive Use		2011	2013		Yes		Agreement
VOMWD	Groundwater Banking		2011	2020		Yes		Feasibility
VOMWD	Recycled Water		2011	2035	Yes	Yes		Feasibility
VOMWD	SCWA Russian River Water Rights Diversion Increase		2015	2035	Yes			Environ.

## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 1 - Address Dry Creek Summer Flows

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
<b>Immediate Action 1</b> - Habitat enhancement, as required by the Biological Opinion, to increase capability of Dry Creek to accommodate summer flows while protecting coho and steelhead	A. Feasibility Study	X				Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Demonstration Project (New Action Item A)		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	C. Development of success measures (New Action Item B)		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	C. Construct Miles 2 & 3		X	X		Moved from Near Term to Immediate. Landowner outreach is underway for project.
<b>Immediate Action 2</b> - Reduce peak demands that affect Warm Springs Dam releases	A. New Reuse		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Groundwater Banking Feasibility Study		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	C. Retrofit/Conservation		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	D. Leak Detection		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 3</b> - Implement Dry Creek tributary restoration projects, as required by Biological Opinion, with goal of enhancing coho and steelhead habitat	A. Grape Creek Restoration Project Monitoring	X	X			Construction completed. Ongoing monitoring for three more years.
	B. Grape Creek and Wallace Creek Fish Passage Projects	X	X	X		Grape Creek completed. Monitoring ongoing. Wallace Creek removed due to right-of-way issues.
	C. Crane Creek Restoration Project	X	X			Construction completed. Ongoing monitoring.
<b>Immediate Action 4</b> - Identify and secure federal, state, and grant funding for implementation of the Biological Opinion	A. Seek federal and state funding		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Proactively work with Water Contractors to ensure their timely assistance in funding efforts and report activities at WAC meetings					
<b>NEW Immediate Action</b> - Construct 2nd and 3rd miles of Dry Creek habitat enhancement	A. Habitat enhancement		X	X		Moved from Near Term to Immediate. Landowner outreach is underway for project.

## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 2 - Modify Operation of Russian River System

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes for New 2013 Action Plan
<b>Immediate Action 1</b> - Modify Decision 1610 minimum instream flow requirements as required by Biological Opinion and make technical adjustments to existing water rights.	A. D1610 changes		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Modeling/hydrologic index		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	C. Environmental Impact Report (EIR)		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	D. Submit Annual Interim Change Petitions		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 2</b> - Estuary Adaptive Management	A. Estuary adaptive management		X			Management project approved. EIR certified. Lawsuit settled on EIR. Monitoring & activities will continue.
<b>Immediate Action 3</b> - Work with interested parties to form an independent science panel to evaluate existing data and develop a conceptual model regarding the hydrologic system upstream of the confluence of Dry Creek and the Russian River.	A. Continue support of science panel		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 4</b> - Support enhanced weather forecasting for frost protection and irrigation by agriculture	A. Demonstration Project		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 5</b> - Enhance operations at Lake Mendocino to increase water supply	A. Corps operations		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Local Users		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 6</b> - Prepare reports on Water Agency's water rights	A. Reports		X			Updated status and progress. Ongoing activities will occur in the upcoming year.
<b>Immediate Action 7 (REMOVED)</b> - Continue to monitor FERC final order and FERC modeling/NEPA	A. Support MCIWPC request that FERC obtain information from PG&E regarding unintended water supply			X		FERC took no action (for two years). Removing this from project list.
NEW <b>Immediate Action 7</b> - Conduct water supply reliability analysis of the upper Russian River	A. Water supply reliability analysis			X		Moved from Near Term actions. Outreach has begun and is ongoing.
NEW <b>Immediate Action 8</b> - Construct new fish screen at Mirabel, in compliance with Biological Opinion	A. Build new screen				X	Design is complete. Funding has been sought for construction, which should be started in 2014.
NEW <b>Immediate Action 9</b> - Prepare for Potter Valley Project re-licensing proceeding	A. During 2012/13, begin preliminary activities, including analysis of technical operations and review of hydrologic and fishery data and studies.			X		Moved from Near Term actions.



## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 3 - Evaluate Potential Climate Change Impacts on Water Supply & Flood Protection

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
<b>Immediate Action 1</b> - Continue climate change modeling for Russian River and Sonoma Valley watersheds.	A. Develop model		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	A. Support federal partners		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 2</b> - Support development of Hydrometeorology Test bed (HMT) for the Russian River basin	A. Outreach and information gathering				X	Moved from Near Term. Outreach on information and collaboration initiated.
	B. Develop reliability actions			X		Moved from Near Term. Next steps dependent on Project A.
<b>Immediate Action 3</b> - Develop adaptation measures						

### Strategy 4 - Pursue Combined Water Supply & Flood Control Projections

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
Identify projects within Water Agency Flood Control Zones that reduce flooding and increase groundwater recharge	A. Scoping & feasibility studies		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Seek funding		X			Updated status and progress. Ongoing activities to occur in upcoming year.

### Strategy 5 - Work With Stakeholders to Promote Sound, Information-Based Water Supply Planning Programs

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
<b>Immediate Action 1</b> - Develop non-regulatory AB 3030/SB1938 management plans that emphasize local control. Emphasize development of diversified water supply "portfolios" for each contractor. Continue with Sonoma Valley program and initiate program in Santa Rosa Plain	A. Implement Sonoma Valley Groundwater Management Plan		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Santa Rosa Plain planning		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 2</b> - Pursue funding opportunities enhanced by developed management plans. Ranking for state funding enhanced if groundwater management plans are in place	A. Funding		X			Updated status and progress and funding received. Ongoing activities to occur in upcoming year.
	A. Support science panel		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 3</b> - Continue support of Independent Science Review Panel						
<b>Immediate Action 4</b> - Ensure Water Agency and Sonoma County are in compliance with CASGEM	A. CASGEM preliminary activities - program development		X			Updated status and progress. Ongoing activities to occur in upcoming year.

## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 6 - Improve Transmission System Reliability

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
<b>Immediate Action 1</b> - In consultation with Water Contractors, develop plan to provide consistent funding for natural hazard and operational reliability capital projects	A. Rogers Creek Fault Crossing Mitigation		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Collector 3 and 5 Liquefaction Mitigation		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	C. Isolation valves		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	D. Automated Meter Infrastructure		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	E. Russian River crossing		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	F. River Diversion System liquefaction mitigation		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	G. Mark West Crossing		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	H. Collector 6 liquefaction mitigation		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	J. Cotati Reservoir 3 recoat		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	K. Petaluma Aqueduct cathodic protection		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	K-O. New Projects Added to 2012 Plan: Santa Rosa Aqueduct cathodic protection; Mirabel surge protection; Kawana to Sonoma booster; Sonoma booster pump upgrade; Wohler-Santa Rosa pipeline; Santa Rosa Creek crossing				X	New projects added to the 2012 Plan
<b>Immediate Action 2</b> - Continue to pursue state and federal funding for natural hazard reliability projects	A. Seek Funding		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 3</b> - Work with Water Contractors to reduce peak demand on transmission system via conservation, groundwater banking, local supply, and recycled water	See Strategies 1, 4, 5, 8 and 9		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 4</b> - Continue research on natural filtration capacity of Russian River	A. Research on pathogen removal B. Research on Surface Water/Groundwater Interaction		X X			Updated status and progress. Ongoing activities Updated status and progress. Ongoing activities

<b>Immediate Action 5</b> - Continue planning new transmission system projects to increase reliability of existing system	A. Planning		X		Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 6</b> - Evaluate condition of Water Agency's transmission system, especially portions experiencing elevated velocities	A. Pilot-scale assessment study of Petaluma Aqueduct, Santa Rosa Aqueduct and Oakmont Pipeline		X		Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Leak detection proof of concept study		X		Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 7</b> - Five year update and renewal of Local Hazard Mitigation Plan	A. Update plan		X		Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 8</b> - Create emergency response plan for Mirabel dam failure or damage	A. Prepare contingency plan		X		Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 9</b> - Update of emergency response plan	A. Update plan		X		Updated status and progress. Ongoing activities to occur in upcoming year.

## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 7 - Take Advantage of Energy and Water Synergies

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
Immediate Action 1 - Implement Water Agency's new Energy Policy	A. (1) Implement Farms to Fuels project (2) Obtain rights to Warm Springs Dam hydropower and Sonoma County landfill (3) Exploration of other locally available renewable energy	X	X	X		Farms to Fuel project is under development; rights to claim hydropower and landfill energy has been completed and removed from WSSAP; exploration of other local renewables and energy efficiency project are ongoing.
	B. Develop & implement Water Agency energy efficiency projects		X			
Immediate Action 2 - Development of projects with local and regional significance	A. (1) Conduct feasibility study of Community Choice Aggregation and work with local partners (2) Implement Renewable Energy Secure Communities (RESCO) project to develop (3) Assist Water Contractors, who are interested, in becoming PWRPA members to obtain less expensive renewable power. (4) Implement Sonoma County Efficiency Financing.		X	X	X	CCA feasibility study is complete and new phase of project is ongoing; RESCO project is ongoing; PWRPA doesn't allow wheeling of power to Contractors and has been removed. New SCEF project added.
	B. Emissions reporting		X			Updated status and progress.
	C. Register renewable energy credits		X			Updated status and progress.
	D. Solar		X			Updated status and progress.
Immediate Action 3 - Pursue state and federal funding for energy efficiency and renewable energy projects	A. Implement grant-funded projects		X			Updated status and progress.

## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 8 - Implement Integrated Water Management

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
<b>Immediate Action 1</b> - Conduct long-term financial analysis to support evaluation and development of water supply, conservation, demand management, and recycled water projects and programs	A. Financial planning		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 2</b> - Develop countywide guidance manual and support the development of individual WSD standards by each land use jurisdiction in Sonoma County, with the goal of managing stormwater quantity and quality and reducing potable water required by new development. Guidance manual will also partially satisfy requirements of stormwater permit jointly held by Water Agency, Sonoma County, and Santa Rosa	A. Countywide manual		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Local jurisdiction plans		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 3</b> - Consult with Water Contractors to evaluate feasibility of base demand system instead of continued peak summer demand system	A. Assess feasibility		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 4</b> - Evaluate alternative revenue models such as seasonal rates and fixed versus variable costs	A. Rate study		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 5</b> - Compare actual gross demand, conservation and source water use with the UWMP projections to ensure projections represent actual conditions	A. Monitor gross water demands		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 6</b> - Work with water contractors to evaluate local and sub-regional projects that could be combined with regional Water Agency projects to increase overall water supply reliability in the most cost-effective manner	A. Conduct assessment of local and sub-regional projects		X			Updated status and progress. Ongoing activities to occur in upcoming year.

## Summary of Changes to 2011 Water Supply Strategies Action Plan (Includes New Actions Added to 2013 Plan)

### Strategy 9 - Overcome Organizational Fragmentation to Promote Efficiency of Water System Operations & Planning

2011 Plan Immediate Actions	Projects	Completed	Ongoing	Moved	New	Changes For New 2013 Action Plan
<b>Immediate Action 1</b> - Develop systems using advance technology to improve the interoperability and transparency of data between the Water Agency and Contractors	A. Demonstration project - collaboration platform		X			Updated status and progress. Ongoing activities to occur in upcoming year.
	B. Metering			X		Removed from Strategy 9. Included in Strategy 6, Action 1
	C. Integrated weather forecasting			X		Removed from Strategy 9. Included in Strategies 2 & 3.
<b>Immediate Action 2</b> - Extend demonstration project including AMI to other Water Contractors	A. Extension of demonstration project			X		Moved to Near Term.
<b>Immediate Action 3 (New Immediate Action 2)</b> - Pursue ISO 9000 and 14000 certification (moved from Strategy 7, Immediate Action 1, Project A)	A. Obtain ISO certification		X			Updated status and progress. Ongoing activities to occur in upcoming year.
<b>Immediate Action 4 (New Immediate Action 3)</b> - Update method of allocating water during shortages	A. Update Water Agency's existing annual water shortage allocation and develop a new allocation model		X			Updated status and progress. Ongoing activities to occur in upcoming year.